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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/837,433	04/19/2001	Daniel Gelbart	200	8910
720	7590	10/06/2003		
OYEN, WIGGS, GREEN & MUTALA 480 - THE STATION 601 WEST CORDOVA STREET VANCOUVER, BC V6B 1G1 CANADA				
EXAMINER HASAN, MOHAMMED A				
ART UNIT		PAPER NUMBER		
2873				
DATE MAILED: 10/06/2003				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/837,433

Applicant(s)

GELBART, DANIEL

Examiner

Mohammed Hasan

Art Unit

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 November 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 65 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1 - 31, 65 is/are allowed.
- 6) ☒ Claim(s) 32 and 53 is/are rejected.
- 7) ☒ Claim(s) 33 - 52, 54 - 64 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 32 and 53 are rejected under 35 U.S.C. 102 (b) as being anticipated by Schachar et al (US 2003/007236 A1).

Regarding claim 32, Schachar et al discloses (refer to figure 1 and 14) a micro electromechanical adaptive lens (e.g., adaptive lens 1300) comprising a deformable transparent membrane (e.g., a common layer of polysilicon deposited on a substrate) attached at its perimeter to a substrate (110), wherein an amount of deformation of the membrane determines an amount of refraction of light beam transmitted through the adaptive lens (paragraphs 0050 and 0095).

Regarding claim 53, Schachar et al discloses (refer to figure 1 and 14) a method for varying an amount of refraction of a light beam transmitted by a micro-electromechanical adaptive lens (e.g., adaptive lens 1300), the method comprising: providing a deformable transparent membrane (e.g., a common layer of polysilicon deposited on a substrate), attached at its perimeter to a substrate and inducing a

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deformation of the membrane, wherein amount of the deformation of the membrane determines the amount of refraction of the light beam transmitted by the adaptive lens (paragraphs 0050 and 0095).

Allowable Subject Matter

2. Claims 1 –31, and 65 are allowed.

3. The following is an examiner's statement of reasons for allowance: The prior art taken either singularly or in a combination fails to anticipate or fairly suggest the limitations of the independent claims, in such a manner that a rejection under 35 U.S.C. 102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in independent claims 1, 22, 14, and 65 for example which include an adaptive lens in a micro- machined device, an adaptive lens comprising a deformable transparent membrane separating two refractive regions, each of refractive regions comprising a fluid with a different refractive index and an amount of deformation of transparent membrane determines an amount of refraction caused to a light beam transmitted by an adaptive lens and a transparent liquid having an index of refraction different from that of a fluid on a side of the membrane away from the base and the liquid located between the membrane and the base.

4. Claims 33 - 52, 54 – 64 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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5. The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to show the membrane extends over cavity in the substrate and the membrane curves into the cavity, the membrane separates the a first region and the second region , each of the regions comprising a fluid with a different refractive index, the cavity contains a liquid which has a refractive index different than that of a fluid on an opposing side of the membrane, the amount of deformation of the membrane is dependent on a magnitude of an electric field applied between the electrode and the membrane, electrode is located inside the cavity, the electrode is substantially transparent, the membrane comprising a conductive layer and an insulating layer, insulating layer is located between the electrode and the conductive layer, the magnitude of electric field is zero and the membrane is substantially flat, a feed back unit is connected with an adaptive lens, a measured value of the amount of deformation, a measured value of the size of the electric field and a measured value of an amount of capacitance between the membrane and the electrode, and the feedback unit is connected to output signal that controls the magnitude of electric field , to produce the desire amount of refraction, the feed back unit comprises a linearization module having at least one look-up table stored in memory, the memory cells on the substrate, a plurality of substantially similar adaptive lens, and the amount of deformation determined by an electric field applied between the electrode and the membrane.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The closest prior art

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He (6,181,485 B1) discloses high numerical aperture optical focusing device for use in data storage system.

Koumura et al (5,574,598) discloses a varifocal lens whose variable focal length can be controlled by, for example, an electric signal and suitable for use in bar code readers, etc.

Kobayashi et al (5,541,776) discloses fluid type optical device.


Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohammed Hasan whose telephone number is (703) 306-0089. The examiner can normally be reached on M-TH, 7:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on (703) 308-4883. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

MH
September 14, 2003


Scott J. Sugarman
Primary Examiner